AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for forming carbon nanotubes for an electron-emitting device, ~~in a flat panel display device~~ comprising:

granularizing a catalyst layer to generate nano-sized granules ~~nano particles and to provide a voluminous surface area~~ for growing a plurality of carbon nanotubes;

~~heating said catalyst layer upon which said plurality of carbon nanotubes is disposed to a temperature of about 300°C to 500°C;~~

soaking the granularized ~~said~~ catalyst layer in a soaking gas before growing the plurality of carbon nanotubes to enhance diffusion properties of the granularized catalyst layer; and

growing the ~~said~~ plurality of carbon nanotubes by exposing the catalyst layer ~~said substrate~~ to a plasma source gas ~~at a density of 10^{10}—$10^{12}cm^{3}$~~.

2. (Currently amended) The method of claim 1, wherein the soaking gas is a hydrocarbon-containing ~~hydro carbon containing~~ gas.

3. (Canceled)

4. (Currently amended) The method of claim 1 ~~Claim 3~~, wherein the ~~said~~ catalyst layer is soaked in the ~~said~~ soaking gas in [[at]] a temperature range of 300°C to 500°C ~~for approximately 1—30 minutes~~.

5. (Currently amended) The method of claim 1 ~~Claim 4~~, wherein said catalyst layer is soaked in a vacuum environment. ~~plurality of carbon nanotubes are formed using a plasma chemical vapor desposition process at a high plasma pressure of 0.5Torr to 10Torr.~~

6. (Currently amended) The method of claim 1 ~~Claim 5~~, wherein the ~~said~~ plasma source gas comprises CH_4.

7. (Currently amended) The method of claim 1 ~~Claim 2~~, wherein the soaking ~~said hydro-carbon containing~~ gas comprises C_2H_2.

8. (Currently amended) The method of claim 1 ~~Claim 7~~, wherein the ~~said~~ plasma source gas is selected from a group consisting of: CH_4 and C_2H_2 ~~comprises a mixture of NH_3 and H_2~~.

9. (Currently amended) The method of claim 1 ~~Claim 8~~, wherein the ~~said~~ plasma source gas includes an additive gas to improve the quality of the ~~said~~ plurality of carbon nanotubes formed on the ~~said~~ catalyst layer.

10. (Currently amended) The method of claim 1 ~~Claim 9~~, wherein the ~~said~~ plasma source gas is provided by ~~comprises~~ a capacitively coupled plasma source.

11. (Currently amended) The method of claim 1 ~~Claim 10~~, wherein the ~~said~~ plasma source gas is provided by ~~comprises~~ an inductively coupled plasma source.

12. (Currently amended) The method of claim 1 ~~Claim 11~~, wherein the ~~said~~ plasma source gas is provided by ~~comprises~~ a microwave plasma source.

13. (Currently amended) The method of claim 9 ~~Claim 8~~, wherein the ~~said~~ additive gas comprises NH_3.

14. (Currently amended) The method of claim 9 ~~Claim 13~~, wherein the ~~said~~ additive gas comprises H_2.

15. (Currently amended) The method of claim ~~Claim~~ 1, wherein the ~~said~~ catalyst layer is disposed on a glass substrate.

16. (New) The method of claim 1, wherein the catalyst layer is soaked in the soaking gas for approximately 1 to 30 minutes.

17. (New) The method of claim 1, wherein soaking the catalyst layer in the soaking gas comprises exposing the catalyst layer to a flow of the soaking gas over the catalyst layer.

18. (New) The method of claim 1, wherein the soaking gas is the same gas used in the growing of the carbon nanotubes.

19. (New) The method of claim 1, wherein the soaking gas is maintained at a density of 10^{10} to $10^{12}cm^3$ while soaking the catalyst layer in the soaking gas.

20. (New) The method of claim 1, wherein the plurality of carbon nanotubes are formed using a plasma chemical vapor deposition process and a plasma pressure of 0.5 Torr to 10 Torr.

21. (New) The method of claim 1, wherein the growing is performed without flushing the soaking gas from the granularized catalyst layer.